



# Mek PowerSpector Desktop

Desktop AOI System For SMT + THT  
Components And Solder Joints

## Desktop AOI System For SMT + THT Components And Solder Joints



### Benefits

→ **Revolutionary Selective 3D Laser Measurement Technology**

Selective height measurement of any given object. Assign two points, a reference and a target.

→ **Newest Generation 5MP USB 3 Vision Cameras**

The latest generation of high speed, high quality cameras. No capture card requirement.

→ **Multi-color 4 angle lighting with Line Source Coaxial Lighting and Meniscus Profiler**

Reliable solder joint meniscus and pad surface analysis to find solder and paste printing defects.

→ **Flexible Classification And Reporting Scenarios**

Integrate AOI efficiently in existing operations and factory layout.

→ **Compatible With Mek Catch System For MES Gateways, Repair, Real Time Monitoring And SPC**

Catch System is compatible with Windows 11 and is a complete suite for data collection, display and statistics.

→ **Line Sourced DOAL (Direct On Axis Lighting) Coaxial Lighting**

Inspect solder joints without shadow effects from tall components nearby.

→ **High Speed Inspection**

Using modern processor and storage power for parallel imaging, calculation and data transmission.

→ **High Resolution Telecentric Optics**

Standard 15 $\mu$  resolution for optimal magnification of smaller SMT component package sizes.

→ **8x Angular Cameras**

Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.

→ **Z-Axis Moving Optical Unit**

Focus and position optimally for varying PCB and component distances, warpage or sandwich assemblies.

→ **Compatible With Mek EZPro**

EZPro is the software tool developed by Mek for ultra fast automatic programming of full measurement recipes.

→ **Synthetic Imaging And Spectral Analysis**

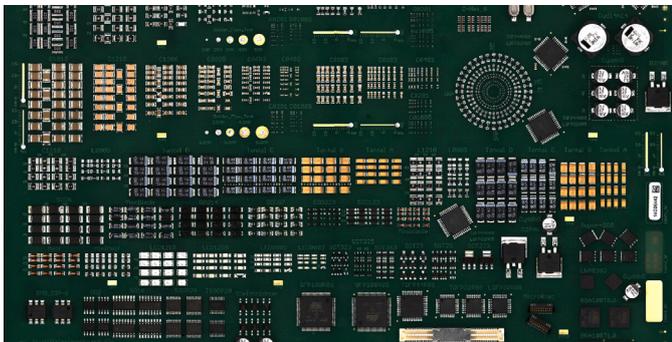
Powerful algorithms to achieve optimized inspection results.



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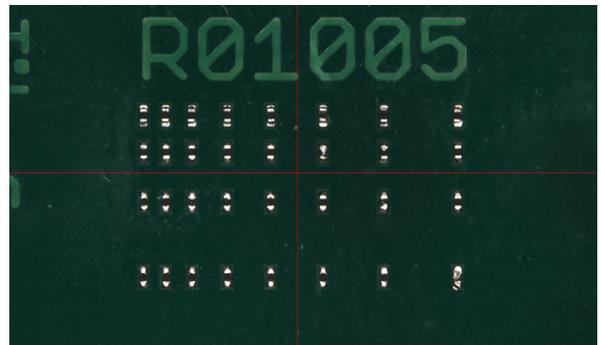


## Features



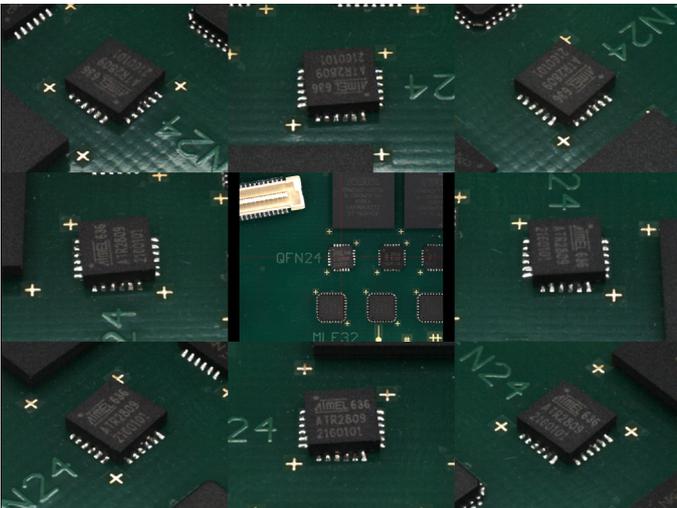
→ **High Definition Images**

The large frame camera CCD and the high quality lenses combination result in crisp and high definition images.



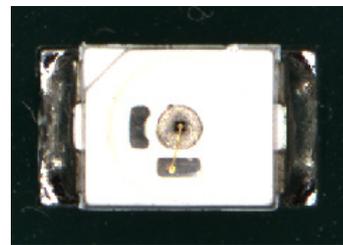
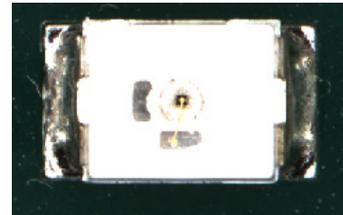
→ **01005" Components Inspectable**

High camera and lens resolution make inspection down to 01005" components possible.



→ **8x Angular Cameras**

Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.



→ **Dynamic Light Reduction And Increase**

Dynamically adjust light intensity to analyse details on white/black PCB's or white/black components.

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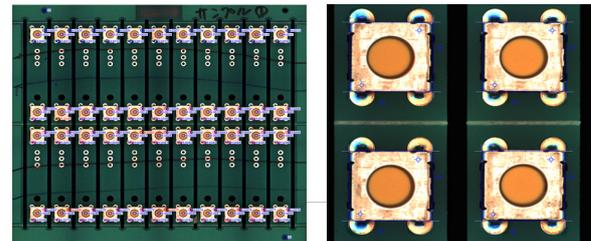


## Features

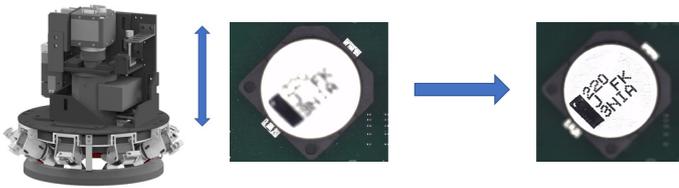
(Height = Measurement – Reference)



→ **Selective 3D Laser Measurement**  
 Measure heights of any given object. Simply assign two points, a reference and a target. Rapid measurement that only extends the cycle time slightly.



→ **Coplanarity Measurement**  
 There is no limit of how many points can have the laser height measurement. Coplanarity of components can be measured in both horizontal and vertical directions.

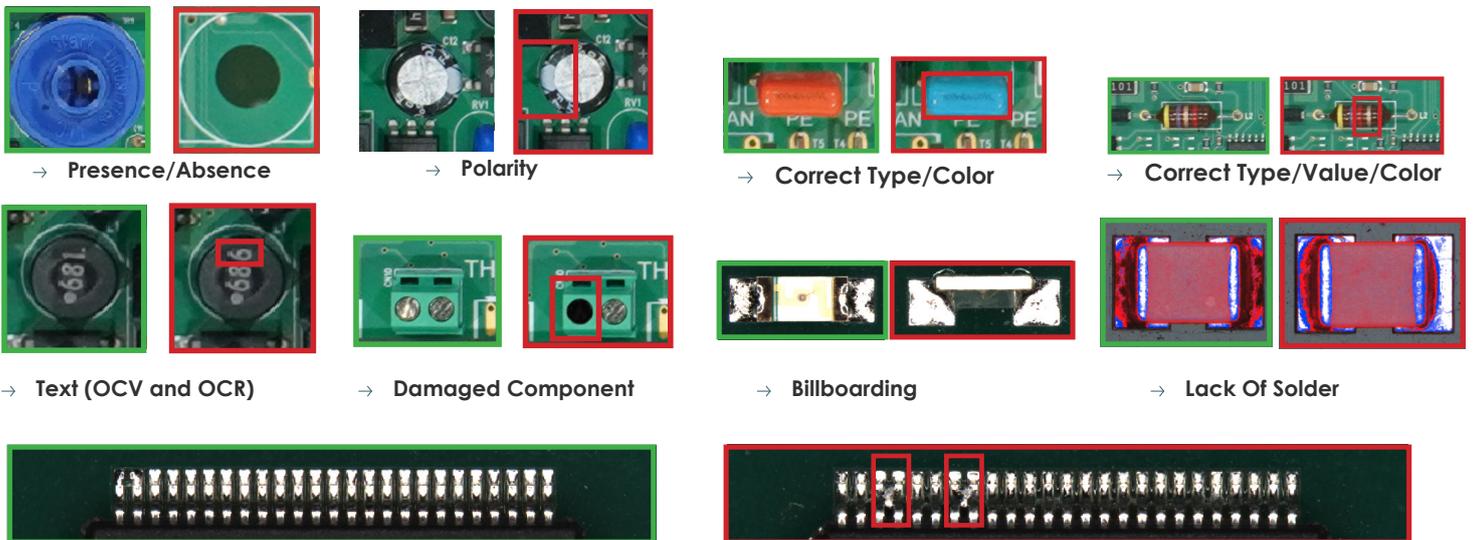


→ **Z-Axis Moving Optical Unit**  
 Ability to focus and position the optics optimally for best inspection results.



→ **Meniscus Profiler**  
 Coaxial and omnidirectional lighting from different angles and with different colors to make solder defects visible.

## Defect Types (not limited to)



# Specifications Desktop PowerSpector JSAz and JSAz+

Characteristics	PowerSpector JSAz 350	PowerSpector JSAz 550	PowerSpector JSAz+ 350	PowerSpector JSAz+ 550
Product Type	SMT And THT Components And Solder Joints AOI			
Maximum PCB Size	350x250mm (13.8"x9.8")	550x500mm (21.7"x19.7")	350x250mm (13.8"x9.8")	550x500mm (21.7"x19.7")
Camera Movement	X Direction	X + Y Direction	X Direction	X + Y Direction
PCB Movement	Moving in Y	Stationary	Moving in Y	Stationary
Parts Inspection	Components Height, Coplanarity, Presence, Polarity, Soldering, Shape, Offset, Text			
Image Processing	Synthetic Imaging, Spectral Analysis, Grescale/RGB Limits			
Camera Type	5 MP CCD Camera With USB3 Vision			
Camera Field of View/Resolution	36mm x 30mm (1.42" x 1.18") / 15.0 µm			
Lens	Telecentric lens with built in prism for DOAL Lighting			
Selective Height Measurement	Laser Projector			
Lighting System	Omnidirectional Quad LED rings: Side White, Side Red, Main, Line Sourced DOAL Diffused On Axis Lighting			
<b>System Specifications</b>				
Minimum Inspection Component Size	01005" (0.4 x 0.2mm) (6µm lens upgrade option)			
Component Clearance (Top)	30mm (1.2")	30mm (1.2")	60mm (2.4")	60mm (2.4")
Component Clearance (Bottom)	70mm			
Side Cameras	8x Digital color USB 3.0 Vision in 45/45 orientation			
Max Measurable Height	30mm			
Height Measurement Resolution	30µm			
Z-Axis Stroke	30mm (1.2")			
Inspection Speed Typical	0.6 sec per FoV			
Electrical Requirements	200-240 VAC /150W			
<b>Interfacing</b>				
Control PC Type	Apple Macmini			
Data Interface	USB and Thunderbolt			
Programming Interface	CSV Centroid File (Placement File)			
Repair/Monitor/SPC System/MES-interface	Mek Catch System (Windows 7/8/10/11) (Option)			
3rd Party Interfacing (MES) & Data Storage	Enterprise SQL DB/XML Files/Socket (Catch System Option)			
<b>General</b>				
Operating Temperature	15-30 deg. C (60-90 deg. F)			
Operating Humidity	15-80 % RH			
External Size	W736 x D874 x H450 (29.0" x 34.4" x 7.7")	W1030 x D1060 x H410 (40.5" x 41.7" x 16.1")	W736 x D874 x H450 (29.0" x 34.4" x 7.7")	W1030 x D1060 x H410 (40.5" x 41.7" x 16.1")
Weight	65kg (143lbs)	95 kg (209 lbs)	65kg (143lbs)	95 kg (209 lbs)

**Mek Americas LLC**

8275 S Eastern Ave, suite 200  
Las Vegas, NV 89123  
T +1 702 660 6112  
info@marantz-electronics.com  
www.marantz-electronics.com

**Marantz Electronics Ltd.**

4F North Square I, Yokohama Business Park,  
134 Goudo-cho, Hodogayaku, Yokohama,  
Kanagawa Japan 240-0005  
T +81-45-340-5566  
info@marantz-mek.co.jp,  
www.model22x.com

**Mek Europe BV**

Polluxstraat 2b  
5047 RB Tilburg, Netherlands  
T +31 40 7114111  
info@mek-europe.com  
www.mek-europe.com

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**because inspection matters**